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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,337	10/03/2003	Lucien Alfred Couvillon JR.	701470.4069	2550

7590 09/13/2006  
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EXAMINER

JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3768

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/678,337

Applicant(s)

COUVILLON ET AL.

Examiner

Jaworski Francis J.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/3/3, 12/29/3, 4/21/5.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/3/3, 12/29/3, 4/21/5</u> .                                 | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6 – 8, 11-14, 19-21, and 25 – 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Violante et al (US6106473, of record in the IDS filed December 29, 2003) which teaches a pre-coat and/or base coat layer, see cols. 11 – 12 selected for adhesive properties in adhering the ultrasound microbubble contrast agent – containing coating which is placed thereover. Spray coating would be a pressure application for the adhesive coat. The pre-coat may include silicone polymer. A polymer topcoat may overlie the echogenic layer so as to reduce wetting, and may include anti-microbials or antibiotics per col. 11 bottom and in a tri-layer embodiment. Violante et al suggests incorporation of the coating invention into among others, catheters, stents and AV-fistulas, the latter two being forms of prostheses replacing or augmenting natural body parts.

Claims 1, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones et al (US6506156, newly of record) insofar as Jones et al teaches col. 4 lines 4 – 37 that an electrically insulative base layer including epoxy which is adherent by nature may underlie an echogenic layer including gas-containing microvoids which the Examiner argues would be characterizable as microbubbles. see col. 4 lines 45 – 47. That is to

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say, insofar as the base claim does not limit to an encapsulated microbubble, bubbles formed as inclusions or voids of a micro size dimension would suffice to anticipate.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 – 5, 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Violante et al as argued above, and further in view of deJong et al (US6752762) since whereas the former does not mention harmonics, it would have been obvious in view of the latter for the Violante et al microbubbles to vibrate as the harmonic or 77subharmonic of the ensonating ultrasound wave since this is the non-linear nature of microbubble vibration, see cols. 1 – 2 of the latter, and since Violante et al in having

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reactive gas-producing embodiments would be expected to have some bubble coalescence which drives subharmonic formation.

Claims 9, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Violante et al as applied to claim 1 above, and further in view of Lambert (US4585666), since Violante et al acknowledge the latter as a hydrogel coating alternative to silicone polymer.

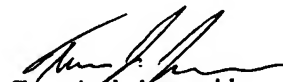
Claims 10, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Violante et al as applied to claim 1 above, and further in view of Tardy et al (US5618551) insofar as whereas the former is silent as to DOPA use as an adhesive, it would have been obvious in view of the latter col. 1 to so use same since the material was known to provide strong biocompatible adhesiveness.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Violante et al as applied to claim 14 above, and further in view of Whitbourne et al (US5,525,348) insofar as the latter teaches incorporation of therapeutic agents broadly into the components of polymer catheters wherever there is risk of harboring microorganisms in an indwelling device.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

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Francis J. Jaworski  
Primary Examiner